AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings of claims in this application.

1. (Previously Presented) A method for enhancing process control, the method comprising:

initiating a manufacturing process to create a product, wherein said initiating includes setting a control on a machine in response to an initial system model; and

tuning said manufacturing process in response to said initial system model, said tuning comprising:

running said machine in response to the initial system model;

monitoring a primary output parameter of said product; and

performing an adaptation process while said manufacturing machine is running, wherein said adaptation process is initiated in response to said primary output parameter being outside of a selected primary output parameter value range, the adaptation process including:

adjusting said control on said machine;

updating said initial system model to define an updated system model in response to said adjusting said control; and

running said machine in response to said updated system model;

monitoring a secondary output parameter of said product; and

alerting an operator if said secondary output parameter is outside of a selected secondary output parameter value range to suggest a process adjustment without initiating said adaptation process.

2. (Canceled)

3. (Canceled)

4. (Previously Presented) The method of claim 1 wherein said monitoring a secondary output parameter includes displaying a current value for said secondary output parameter.

5. (Original) The method of claim 4 wherein said monitoring a secondary output parameter further includes displaying said selected secondary output parameter value range.

6. (Previously Presented) The method of claim 1 wherein said alerting includes recommending a corrective action to said operator.

7. (Canceled)

8. (Currently Amended) A computer implemented method for enhancing process control, the method comprising:

initiating a manufacturing process to create a product, wherein said initiating includes setting a control on a machine in response to an initial system model; and

tuning said manufacturing process in response to said initial system model, said tuning comprising:

running said machine in response to the initial system model;

monitoring a primary output parameter of said product; and

performing an adaptation process while said manufacturing machine is running, the adaptation process including:

adjusting said control on said machine;

updating said initial system model to define an updated system model in response to said adjusting said control; and

running said machine in response to said updated system model;

creating a second system model, wherein said second system model is a copy of said initial system model;

initiating a second manufacturing process to create said product, wherein said initiating a second manufacturing process includes setting a control on a second machine in response to an input value included in said second system model; and

tuning said second manufacturing process in response to said second system model.

9. (Original) The method of claim 1 further comprising creating a process control report.

10. (Original) The method of claim 9 wherein said process control report includes production data.

11. (Original) The method of claim 9 wherein said process control report includes downtime data.

12. (Original) The method of claim 9 wherein said process control report includes yield loss data.

13. (Original) The method of claim 9 wherein said process control report includes system maintenance data.

14. (Original) The method of claim 9 wherein said process control report includes system change order data.

15. (Canceled)

16. (Currently Amended) A system for optimizing process control, the system comprising:

a storage device for storing process control data;

a manufacturing machine;

a process control system in communication with said manufacturing machine and said storage device, said process control system implementing a process comprising:

initiating a manufacturing process to create a product, wherein said initiating includes setting a control on a machine in response to an initial system model; and

driving said manufacturing process in response to said initial system model, said driving comprising:

;

monitoring a primary output parameter of said product; and

performing an adaptation process while said manufacturing machine is running, wherein said adaptation process is initiated in response to said primary output parameter being outside of a selected primary output parameter value range, the adaptation process including:

adjusting said control on said machine;

updating said initial system model to define an updated system model in response to said adjusting said control; and

running said machine in response to said updated system model.

monitoring a secondary output parameter of said product; and

alerting an operator if said secondary output parameter is outside of a selected secondary output parameter value range to suggest a process adjustment without initiating said adaptation process.

17. (Canceled)

18. (Canceled)

19. (Previously Presented) The system of claim 16 wherein said monitoring a secondary output parameter includes displaying a current value for said secondary output parameter.

20. (Original) The system of claim 19 wherein said monitoring a secondary output parameter further includes displaying said selected secondary output parameter value range.

21. (Previously Presented) The system of claim 16 wherein said alerting includes recommending a corrective action to said operator.

22. (Canceled)

23. (Previously Presented) A system for optimizing process control, the system comprising:

a storage device for storing process control data;

a manufacturing machine;

a process control system in communication with said manufacturing machine and said storage device, said process control system implementing a process comprising:

initiating a manufacturing process to create a product, wherein said initiating includes setting a control on a machine in response to an initial system model; and

driving said manufacturing process in response to said initial system model, said driving comprising:

tuning said machine in response to said initial system model;

monitoring a primary output parameter of said product; and

performing an adaptation process while said manufacturing machine is running, the adaptation process including:

adjusting said control on said machine;

updating said initial system model to define an updated system model in response to said adjusting said control; and

running said machine in response to said updated system model;:

creating a second system model, wherein said second system model is a copy of said initial system model;

initiating a second manufacturing process to create said product, wherein said initiating a second manufacturing process includes setting a control on a second machine in response said second system model; and

tuning said second manufacturing process in response to said second system model.

24. (Original) The system of claim 16 wherein the process implemented by said process control system further comprises creating a process control report.

25. (Original) The system of claim 16 further comprising a network providing communication between said process control system and said storage device.

26. (Original) The system of claim 16 further comprising a network providing communication between said process control system and said manufacturing machine.

27. (Original) The system of claim 16 further comprising a host system in communication with said storage device.

28. (Original) The system of claim 27 wherein said host system is in communication with said process control system.

29. (Original) The system of claim 27 further comprising a user system in communication with said host system.

30. (Previously Presented) A storage medium encoded with machine-readable computer program code for optimizing process control, the storage medium storing instructions for causing a process control system to implement a method comprising:

initiating a manufacturing process to create a product, wherein said initiating includes setting a control on a machine in response to an initial system model; and

tuning said manufacturing process in response to said initial system model, said tuning comprising:

running said machine in response to said initial system model;

monitoring a primary output parameter of said product; and

performing an adaptation process while said manufacturing machine is running, wherein said adaptation process is initiated in response to said primary output parameter being outside of a selected primary output parameter value range, the adaptation process including:

adjusting said control on said machine;

updating said initial system model to define an updated system model in response to said adjusting said control; and

running said machine in response to said updated system model;

monitoring a secondary output parameter of said product; and

alerting an operator if said secondary output parameter is outside of a selected secondary output parameter value range to suggest a process adjustment without initiating said adaptation process.